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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/758,741	01/11/2001	Vincent Leroux	1366 US	9031

25105 7590 08/26/2003

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EXAMINER
DICUS, TAMRA

ART UNIT	PAPER NUMBER
1774	11

DATE MAILED: 08/26/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-11

Office Action Summary	Application No.	Applicant(s)	
	09/758,741	LEROUX ET AL.	
	Examiner	Art Unit	
	Tamra L. Dicus	1774	

-- Th MAILING DATE of this communication app ars on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 June 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6 and 14-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6 and 14-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

The 102 (b) rejection to Bouchemousse is withdrawn due to Applicant's amendment.

Cancellation of non-elected claims 7-13 is acknowledged.

Claim Objections

1. Claims 14-17 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Note, that although 37 CFR 1.75(c) requires the dependent claim to further limit a preceding claim, this rule does not apply to product-by-process claims.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 18 is rejected under 35 U.S.C. 101 because the claimed invention is not supported by either a credible asserted utility or a well established utility.

Claim 18 is also rejected under 35 U.S.C. 112, first paragraph. Specifically, since the claimed invention is not supported by either a credible asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1(amended) -3, 6, and 14-17 (new) are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 5,691,061 to Hanse et al.

7. Hanse teaches a refractory shape having a coating. The body is of a refractory material (2) having a layer (10) that covers the body partially or completely that is oxidized, also comprising a slagline collar (8) that functions as an insulative coating, with a layer of glaze (3) which has the purpose of preventing oxidation of the refractory material during preheating and use. See col. 4, lines 25-40. The material contains carbon, a binder, and alumina at col. 4, lines 45-50. At col. 6, lines 50-60, teaches carbon-containing graphite as part of the refractory material. Figures 1 and 6 show a nozzle, thin and curved.

8. Regarding new claims 14-17, such process limitations as "applying the insulating coating over...", "applying the glaze..." are not limited to the specific method steps, but only to the structure implied by the steps. For example, the structure includes insulative coating and glaze, which the prior art provides. See MPEP 2113.

9. Claims 1-2, 6, and 14-17 (new) are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 5,370,370 to Benson.

10. Benson discloses a carbon-bonded, oxide refractory body in the form of a nozzle for use in casting molten metal, such as aluminum-killed steel (see col. 5, line 12+), where the exterior

body surface is coated with a glaze of a glass forming frit material (see col. 6, line 20+). Benson discovered that a carbon-bonded, oxide refractory material such as carbon-bonded alumina graphite in the form of a nozzle can be used to form an anti-buildup liner which is resistant to carbon monoxide gas and resistant to the formation and buildup of alumina (see col. 5, line 12+). Benson applies a glaze to the body to protect the exterior surface of the body against oxidation during firing of the nozzle (see col. 6, line 24+).

11. Regarding new claims 14-17, such process limitations as "applying the insulating coating over...", "applying the glaze..." are not limited to the specific method steps, but only to the structure implied by the steps. For example, the structure includes insulative coating and glaze, which the prior art provides. See MPEP 2113.

12. Claims 1 (amended) and 14-17 (new) is rejected under 35 U.S.C. 102(b) as being anticipated by USPN 5,908,577 to Yamamura et al.

13. Yamamura teaches a nozzle for continuous casting of molten metal. The nozzle body 10 has a first surface (encompasses thin-slab nozzle of claim 4), the inner wall part 11 is over 10 (functioning as an outer surface, see Figure 1). The inner wall acts as an insulative coating. Yamamura teaches the green ceramic body is fired, inherently producing a glaze over 11 at col. 9, lines55-60. At col. 4, lines 4-15, a carbon-containing graphite material is taught.

14. Regarding new claims 14-17, such process limitations as "applying the insulating coating over...", "applying the glaze..." are not limited to the specific method steps, but only to the structure implied by the steps. For example, the structure includes insulative coating and glaze, which the prior art provides. See MPEP 2113.

Response to Arguments

15. Applicant's arguments filed 6-11-03 have been fully considered but they are not persuasive.

16. Applicant contests that to Hanse does not teach collar (8) as an insulative coating, further stating that (8) only is resistant to erosion. The other functions at col. 1, lines 10-15 make it clear that the refractory material is subject to severe conditions of use, undergoing thermal stresses, erosion by the molten steel, oxidation and in general all the high temperature reactions that result from interactions between the constituents of the refractory material and steel. Collar (8) covers the refractory body. Insulation serves to protect the inner body. Therefore (8) provides insulation to some degree. A brick, for instance, provides insulation. Glass and alumina provides insulation (Hanse teaches alumina at col. 4, lines 35-38). Applicant does not limit the type of insulation or specifically limit the properties. It would be reasonable to expect the collar provides insulation since it's for a refractory article. Applicant has not provided any evidence to the contrary to prove Hanse's sleeve won't function as an insulative coating. No differences are seen. Applicant's arguments are not persuasive.

17. Applicant argues Benson does not show a glaze. Applicant ignores Benson teaching glaze at col. 6, lines 20+. Applicant further argues that there is no insulative coating present. Benson teaches at col. 6, lines 10-13, a slagline sleeve which is a functional equivalent to an insulative coating. Again, Applicant has not provided any evidence to the contrary to prove otherwise. Applicant does not limit the type of insulation or specifically limit the properties. It would be reasonable to expect the sleeve provides insulation since it's for a refractory article.

18. Applicant argues that Yamamura does not teach the word "glaze". This argument is not persuasive. When green ceramic is fired, it indeed produces a glassy surface, which is equivalent to providing a glaze. Applicant has not provided any evidence to the contrary to prove otherwise. Applicant contends that the inner wall is not an outer surface. However, Applicant does not limit the insulative coating to be on the outer surface *per se*. The insulating coating merely has a second outer surface and a glaze covers the second outer surface (as the prior art provides, See col. 9, lines 55-60). The refractory piece has a first outer surface (as provided by the prior art), and the Applicant does not limit the surface structural relationship to the second or any surface be it outer or inner. The inner wall part 11 is **over** 10, see Figure 1. The inner wall acts as an insulative coating. The inner wall includes alumina at col. 5, lines 20-25, which inherently provides insulative properties. Applicant contests that Applicant does not limit the type of insulation or specifically limit the properties. It would be reasonable to expect the wall provides insulation since it's for a refractory article. Applicant's arguments are not persuasive.

19. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Whittemore, Yamamura, and Sara all provide motivation to combine since they are all either to refractory nozzles or to coatings for articles. Applicant believes the Examiner used Whittemore to teach the insulating coating. The Examiner did not use Whittemore to teach this,

but to teach adding the remainder components of instant claim 5 using the same ranges and materials of 5 to 15 % alumina (metal), and 5 to 25 wt % microspheres at col. 2, lines 20-40. The microspheres are used to reduce cost. Applicant alleges the claimed invention does not include microspheres onto the outer surface, and not into the refractory piece and therefore Whittemore does not teach the insulating property. Such allegation is not persuasive. It is clear that Whittemore provides the same materials and ranges, and the same property. The title is named "Insulating Refractory," thereby providing insulating property. Whittemore was not used to teach the application of the insulating coating to an outer surface as Applicant contends. Moreover, Whittemore proves the insulating coating is applicable to refractory shapes at col. 1, line 8, which is inclusive of Applicant's "refractory article". No differences are seen.

Conclusion

20. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamra L. Dicus whose telephone number is (703) 305-3809. The examiner can normally be reached on Monday-Friday, 7:00-4:30 p.m., alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on (703) 308-0449. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-8329 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Tamra L. Dicus
Examiner
Art Unit 1774

August 15, 2003

BRUCE H. HESS
PRIMARY EXAMINER